

Chapter 1

Amount of Research Space

Highlights . . .

- Within academic institutions of all types, the biomedical sciences comprised 40 percent, 54.6 million net assignable square feet (NASF), of the total research space assigned to all science and engineering fields.
- In 1996, institutions performing biomedical research devoted a total of 67.4 million NASF to this research. The biological sciences occupied 53 percent of the total biomedical research NASF (35.9 million NASF) and the medical sciences occupied 47 percent of this space (31.5 million NASF).
- Research space in both the biological and medical sciences continued to increase, a pattern evident since 1988, the first year data are available and the National Science Foundation (NSF) and the National Institutes of Health (NIH) began collecting data on biomedical research facilities.
- Slightly over half, 52 percent, of all biological science research space was located in colleges and universities; 56 percent of all medical science research space was located in medical schools.

Data Considerations

The 1996 Survey of Scientific and Engineering Research Facilities collected data on the amount of net assignable square feet (NASF) devoted solely to organized research as well as the NASF assigned to both instruction and research in each major scientific and engineering (S&E) field. Instructional and research NASF includes all space assigned to the fields or the departments within fields, such as departmental and faculty offices, conference and seminar rooms, research space, instructional space, and space leased by institutions. Research NASF is the net assignable square feet devoted exclusively to the research and development activities of an institution that are budgeted and accounted for.

Institutional respondents have indicated that the NASF figures are conservative estimates of the total amount of space used for S&E research. They prorated space that has multiple uses, including S&E research, and did not include space used for undergraduate research or for department-funded faculty research.

Findings

Distribution of Research Space Among Fields and Institutions

In 1996, approximately 780 nongovernmental, noncommercial institutions performed biomedical research, including 539 academic institutions (69 percent), 139 nonprofit research organizations (18 percent) and 102 hospitals (13 percent) (Table 1-1). These 780 institutions reported an estimated 67.4 million NASF of biomedical research space in 1996, an increase of 8 percent from 1994 (62.5 million NASF) and an increase of 30 percent from 1988 (51.9 million NASF), the first year the survey was administered.

As in all survey years, institutions reported more assigned research space in 1996 in the biological sciences than in the medical sciences. In this most recent survey period, the 780 institutions involved in biomedical research devoted 35.9 million NASF to biological science research and 31.5 million NASF to medical science research (Table 1-2). However, since 1994, the amount of medical science research space increased considerably more than did the amount of biological science research space. The total amount of medical science research space increased by 3.1 million NASF in these two years, 11 percent, while the amount of biological science research space increased 1.8 million NASF, or 5 percent.

Table 1-1
Number of institutions and net assignable square feet (NASF) of
biomedical research space, by institution type and control:
1988-1996

[NASF in millions]

INSTITUTION TYPE	Number of institutions, 1996 ¹	BIOMEDICAL RESEARCH SPACE				
		Total				
		1988	1990	1992	1994	1996
Total	780	51.9	55.2	59.7	62.5	67.4
Academic institutions	539	43.3	45.8	50.1	50.7	54.6
Colleges and universities	505	21.4	22.5	23.3	23.0	26.1
Top 50 in research expenditures	49 ²	10.2	10.4	10.7	10.9	12.2
Other doctorate-granting	233	10.0	10.9	11.3	10.6	12.1
Nondoctorate-granting	223	1.1	1.3	1.6	1.0	1.7
Medical schools	134	21.9	23.3	26.8	27.7	28.5
Research organizations	139	4.4	4.8	5.1	6.4	6.6
Hospitals	102	4.2	4.5	4.6	5.4	6.2

¹Entry indicates the estimated number of institutions with assigned research space in the biological and/or medical sciences. Category totals do not sum to grand totals because many institutions contain both a college/university (exclusive of medical school) and a medical school. In grand totals, medical schools are counted as separate institutions only if they are not part of larger universities.

²One of the top 50 research-performing colleges and universities, Baylor College of Medicine, is a medical school and is included in that subtotal.

NOTE: Because of rounding, components may not add to totals.

SOURCE: National Institute of Health, *The Status of Biomedical Research Facilities: 1996*, Bethesda, MD, 1997

Table 1-2
Number of institutions and net assignable square feet (NASF) of
biomedical research space, by institution type and control,
and biomedical field: 1988-1996

[NASF in millions]

INSTITUTION TYPE AND CONTROL	Number of institutions, 1996 ¹	BIOMEDICAL RESEARCH SPACE									
		Biological science					Medical science				
		1988	1990	1992	1994	1996	1988	1990	1992	1994	1996
Total	780	28.2	31.0	32.4	34.1	35.9	23.7	24.3	27.3	28.4	31.5
Academic institutions	539	23.9	26.2	27.7	27.9	29.5	19.3	19.8	22.3	22.8	25.1
Colleges and universities	505	16.1	17.6	17.1	17.0	18.7	5.3	5.0	6.2	6.0	7.4
Top 50 in research expenditures	49 ²	7.5	7.6	7.7	7.6	8.1	2.8	2.8	3.0	3.3	4.1
Other doctorate-granting	233	7.6	8.8	8.3	8.0	9.1	2.5	0.1	3.1	2.6	3.0
Nondoctorate-granting	223	1.1	1.2	1.4	0.1	1.45	0.1	0.1	0.1	0.2	.25
Medical schools	134	7.8	8.6	10.6	10.9	10.8	14.0	14.8	16.1	16.8	17.7
Research organizations	139	3.2	3.7	3.7	4.7	4.8	1.3	1.1	1.4	1.7	1.8
Hospitals	102	1.1	1.1	1.0	1.5	1.6	3.1	3.4	3.5	3.9	4.6

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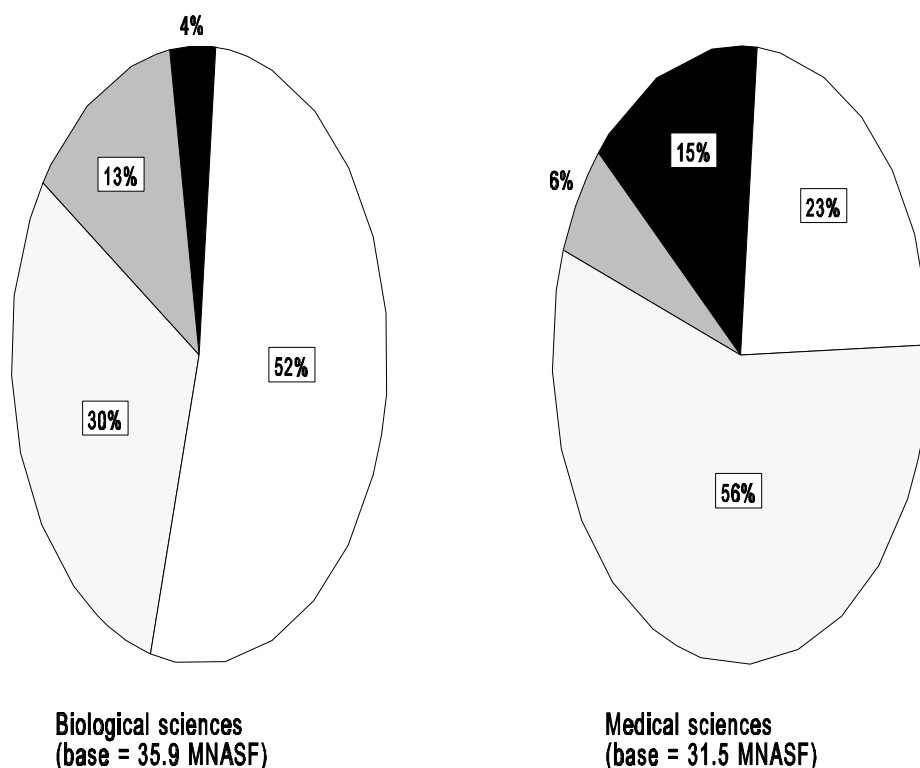
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In 1996, academic institutions contained 81 percent of the total biological and medical sciences research space. Medical schools contained 56 percent of all medical science research space, while colleges and universities (non-medical components) contained 52 percent of all biological research space (Chart 1-1).

Among nonacademic institutions, nonprofit research organizations accounted for a substantial share (13 percent) of biological science research space and hospitals accounted for a comparatively small share (4 percent). Nonprofit research organizations comprised only 6 percent of medical science research space while hospitals accounted for 15 percent (Chart 1-1).

Chart 1-1
Distribution of biomedical research space in
biological and medical sciences,
by type of institution: 1996



Distribution of Research Space Within Academic Institutions

Within academic institutions, the total amount of space assigned to all S&E fields increased between 1994 and 1996, from 282 million NASF to 285 million NASF. The amount of space assigned to S&E fields in 1996 is comparable to that in 1992. The amount of this space assigned to research increased much faster than total space growth, from 127 million NASF in 1994 to 136 million NASF in 1996 (Table 1-3). Whereas the increase in total assigned space to S&E fields represents a 1 percent increase, the increase devoted to research represents a growth of 7 percent.

The total amount of space assigned to the biomedical sciences declined by 1 million NASF between 1994 and 1996, from 112 million NASF to 111 million NASF. This decline occurred solely in non-research space since the amount of space assigned to research increased in the biomedical sciences, from 51 million NASF in 1994 to 55 million in 1996.

Table 1-3
Total assigned space and space assigned for research
at academic institutions, by field: 1988-1996

[NASF in millions]

FIELD	Total assigned space (research and other)					Assigned research space				
	1988	1990	1992	1994	1996	1988	1990	1992	1994	1996
All science/engineering fields	271	276	285	282	285	112	116	122	127	136
Biomedical sciences	111	112	122	112	111	43	46	50	51	55
Biological sciences	45	49	52	52	52	24	26	28	28	29
In universities and colleges	32	34	33	35	36	16	18	17	17	19
In medical schools	13	15	19	17	16	8	9	11	11	11
Medical sciences	66	63	70	60	59	19	20	22	23	25
In universities and colleges	21	22	25	22	23	5	5	6	6	7
In medical schools	45	41	46	38	36	14	15	16	17	18

KEY: NASF = Net assignable square feet

NOTE: Because of rounding, components may not add to totals.

SOURCE: National Institutes of Health, *The Status of Biomedical Research Facilities: 1996*, Bethesda, MD, 1997

The biomedical sciences comprised 39 percent, 111 million NASF, of the total space assigned to all S&E fields. Comparatively, the space assigned to biomedical research comprised 55 million NASF, or 40 percent, of the total space assigned to research in the S&E fields.

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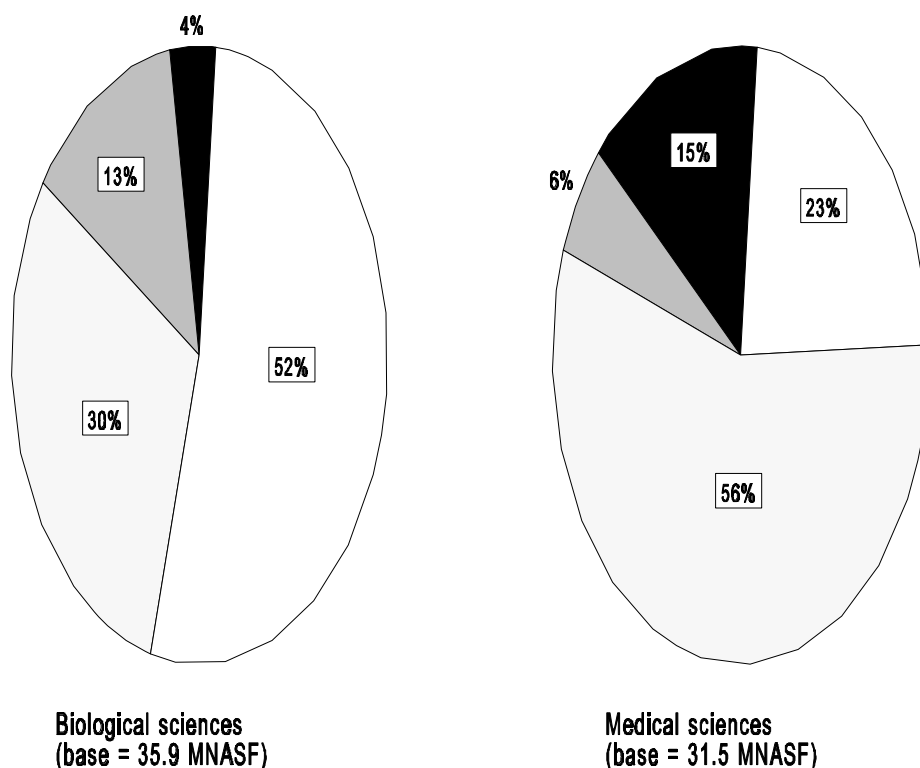
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